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Investigating the quality of TSPCK in enactment for fourth (4th) year preservice teachers (PSTs) using digital teaching videos in the topic of Chemical Equilibrium.

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ABSTRACT

The purpose of this study was mainly to examine the nature and quality of Topic Specific Pedagogical Content Knowledge (TSPCK), how it behaves or changes when it is observed from self-recorded teaching videos specifically on the topic of Chemical Equilibrium. This study was performed on a group of preservice teachers (PSTs) at Wits school of Education. The collected data involved lesson plans, reflections, and self-recorded teaching videos. This data was subjected to extensive in-depth qualitative analysis, where TSPCK episodes were identified. The Cohens Kappa coefficient was calculated for the validity of the identified TSPCK episodes. This study found that the nature of TSPCK in teacher lesson plans for self-recorded video lessons appears to remain constraint and limited in visibility. This is because teacher tasks seem to offer very few, specifically only single, opportunities for portraying the teachers' TSPCK even when the planning is for digital recording. Furthermore, it was found that the quality of planned TSPCK (plTSPCK) reflected in the planning of teacher self-video recorded lessons appears to directly influence the quality of enacted TSPCK (eTSPCK) manifesting in the enactment teaching of the planning. Furthermore, higher quality plTSPCK seem to facilitate the visible manifestation of the complex structural change in the interactions of the knowledge components of TSPCK. Implications of this study are that there is a need for reconsideration of new theoretical framework within a digital space which were discussed in this study.

Key words: Preservice teachers (PSTs), TSPCK, eTSPCK, plTSPCK, TSPCK episodes Chemical Equilibrium, self-recorded teaching videos